

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P040517P0	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2005/019679	International filing date (<i>day/month/year</i>) 26 October 2005 (26.10.2005)	Priority date (<i>day/month/year</i>) 26 October 2004 (26.10.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.			

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	<table style="width: 100%;"> <tr> <td style="width: 50%;">Date of issuance of this report 01 May 2007 (01.05.2007)</td> <td style="width: 50%;">Authorized officer Masashi Honda</td> </tr> <tr> <td colspan="2">e-mail: pt08.pct@wipo.int</td> </tr> </table>	Date of issuance of this report 01 May 2007 (01.05.2007)	Authorized officer Masashi Honda	e-mail: pt08.pct@wipo.int	
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e-mail: pt08.pct@wipo.int					

PATENT COOPERATION TREATY

TRANSLATION

PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

Applicant's or agent's file reference

P040517P0

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2005/019679

International filing date (day/month/year)

26.10.2005

Priority date (day/month/year)

26.10.2004

International Patent Classification (IPC) or both national classification and IPC

Applicant

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCI/JP2005/019679

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
- ☐ filed together with the international application in electronic form
- ☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/019679

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- ☒ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:

The "special technical feature" of the subject matters of claims 1-23 relates to a technique in which a radio terminal device sends communication profile information including information on a radio communication method, a frequency band to be used, a communication start time and a communication continuation time to a management terminal device, and the management terminal device compares the acquired communication profile information with a past communication permission list, generates communication permission/non-permission information indicating permission or non-permission of communication based on the communication profile information, and sends the communication permission/non-permission information to the radio terminal device.

The "special technical feature" of the subject matter of claim 24 relates to a calculation device calculating a degree of interference indicating an extent of interference with a first communication link by a second communication link adopting a radio communication method different from that of the first communication link.

The "special technical feature" of the subject matter of claim 25 relates to a calculation device calculating a degree of interference indicating an extent of interference with a first communication link by a second communication link adopting a radio communication method different from that of the first communication link, and calculating an expected value of throughput in the first communication link from a standard throughput and a throughput parameter coefficient.

Here, the subject matter of claim 24 and the subject matter of claim 25 are in common with regard to the degree of interference indicating an extent of interference with a first communication link by a second communication link adopting a radio communication method different from that of the first communication link. However, it is well known that a plurality of communication links each have a degree of interference, and the degree of interference is not considered to be a special technical feature.

Therefore, these inventions are not considered to be so linked as to form a single general inventive concept, since they do not have a technical relationship including one or more of the same or corresponding special technical features.

Therefore, this international application is considered to have three inventions.

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☒ all parts
 - ☐ the parts relating to claims Nos. _____

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2005/019679

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	3, 4, 7, 8, 10, 13, 16-19, 24, 25	YES
	Claims	1, 2, 5, 6, 9, 11, 12, 14, 15, 20-23	NO
Inventive step (IS)	Claims	3, 4, 7, 8, 10, 13, 16-19, 24, 25	YES
	Claims	1, 2, 5, 6, 9, 11, 12, 14, 15, 20-23	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: JP, 2003-258812, A (Sony Corporation), 12 September, 2003 (12.09.03), paragraphs [0001]-[0105]</p> <p>Document 2: JP, 60-239139, A (Matsushita Electric Industrial Co., Ltd.), 28 November, 1985 (28.11.85), full text</p> <p>Document 3: JP, 2001-217759, A (Matsushita Electric Industrial Co., Ltd.), 10 August, 2001 (10.08.01), paragraph [0037]</p> <p>Document 4: JP, 2004-007652, A (Nokia Corporation), 8 January, 2004 (08.01.04), paragraphs [0013]-[0018]</p> <p>Document 1 cited in the ISR describes a system having a plurality of radio networks of different signal modes, wherein a control station of each radio network performs sending/reception in a common signal mode for a signal of information exchanged for time-dividing a transmission frame period and using the same, such as a beacon signal, wherein a network use state of any other radio network (see, for example, transmission frame period, band use information within the transmission frame period, etc.) is acquired by a beacon signal, wherein if there is a beacon signal sent from the other radio network, the transmission frame period and the band assignment state of the other radio network are identified and a comparison is made with the band assignment state of the own network to detect existence/nonexistence of a time of collision, and if collision occurs, a request for setting a different system use period is sent to the other control station as a common control signal, and wherein if the request for setting a different system use period has been received, a setting is made based on the request.</p> <p>Document 2 cited in the ISR describes a mobile communication system sharing a frequency, wherein a direct-current level is monitored to detect an interference level.</p> <p>Document 3 cited in the ISR describes that the power level of a desired wave in a PHS system is calculated, and the calculated power level and the average power level of an input signal are used to calculate a degree of interference.</p> <p>Document 4 cited in the ISR describes a system assigning a dynamic channel for a packet exchange service, wherein an incoming interference value and an existing timeslot capacity are monitored to derive an estimated throughput value.</p> <p>a. Claims 1, 2, 5, 6, 9, 11, 12, 14, 15, 20, 22 and 23</p> <p>The setting request of a control station detecting a collision in document 1 cited in the ISR is information on whether a band obtained from a network use state can be used or not, and therefore</p>			

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/019679

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement

corresponds to communication permission/non-permission information in the subject matters of the claims.

Furthermore, in the subject matters of the claims, communication profile information includes information on a radio communication method, a modulation method and coding, but control performed using the information is not particularly described, and therefore the information described above is not considered to have a special effect. Therefore, including a radio communication method, a modulation method and coding in communication profile information is a design variation that could be selected as required by a person skilled in the art.

b. Claim 21

Document 1 cited in the ISR does not describe a configuration of having a relay terminal device between control stations, but the provision of a relay terminal if direct communications cannot be carried out between control stations is commonly practiced, and could have been easily conceived of by a person skilled in the art.

c. Claims 3, 4, 7, 8, 10, 13 and 16-19

The subject matters of claims 3, 4, 7, 8, 10, 13 and 16-19 are neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art. Particularly, none of the documents discloses that required throughput information is acquired in addition to communication profile information, an expected throughput value is calculated, and the expected throughput value is compared with the required throughput information to determine whether communication is permitted or not, or that if non-permission information has been received, new communication profile information generated is sent to a management terminal device.

d. Claim 24

The subject matter of claim 24 is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art. Particularly, none of the documents discloses that the degree of interference is determined from a first link bandwidth, an overlapping bandwidth, a first power value, a second power value, an interference parameter coefficient and a unit time.

e. Claim 25

The subject matter of claim 25 is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art. Particularly, none of the documents discloses that the expected throughput value is determined from a standard throughput, a throughput parameter coefficient and the degree of interference.